REMARKS

Applicant respectfully requests favorable reconsideration of this application in view of the foregoing amendments and the following remarks.

I. Status

In this reply, Applicant amends claims 1, 6, 8, 10, 13, and 18; cancels claims 2, 11, 12, 17, and 19 without prejudice or disclaimer; and adds new claims 20-28. Claims 1, 3-10, 13, 18, and 20-28 are thus currently pending. The changes to the claims find non-limiting support in the originally-filed application (see, e.g., Figs. 1, 3, 5, and 6, and paragraphs 0044-0046, 0049, 0050, 0055, and 0059, of the published application). No new matter has been added.

In the outstanding Office Action, claims 8, 11, and 13 were objected to because of informalities; claims 1, 3-5, 8, and 10-13 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ikeda et al. (U.S. Patent No. 6,145,384, "Ikeda"); claims 1, 2, and 9 were rejected under 35 U.S.C. § 102(b) as being anticipated by Kobayashi (U.S. Patent Application Publication No. 2003/0080755 A1, "Kobayashi"); claims 1-4, 9-12, and 17-19 were rejected under 35 U.S.C. § 102(e) as being anticipated by Ryhanen et al. (U.S. Patent Application Publication No. 2005/0030724 A1, "Ryhanen"); claims 1, 2, 10-12, and 17 were rejected under 35 U.S.C. § 102(b) as being anticipated by Ackland et al. (U.S. Patent No. 6,097,195, "Ackland"); claims 1, 6, and 7 were rejected under 35 U.S.C. § 103(a) as being unpatentable over Zias et al. (U.S. Patent Application No. 2003/0072127 A1, "Zias") in view of Ikeda; and claim 17 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Ikeda in view of Ryhanen.

II. Objection to Claims 8, 11, and 13 Because of Informalities

The Office Action asserts at page 2 that claims 8, 11, and 13 lack antecedent basis and suggests appropriate corrections. In response, Applicant amends claims 8 and 13 as suggested in the Office Action. Claim 11 is cancelled without prejudice or disclaimer. Accordingly, Applicant submits that the informalities have been corrected and respectfully requests that the objection to claims 8 and 13 be withdrawn.

III. Rejection of Claims 1, 3-5, 8, and 10-13 as Being Anticipated by Ikeda

The Office Action rejected independent claims 1 and 10 as being anticipated by Ikeda. In response, and in the spirit of moving prosecution forward, Applicant amends claim 1 to recite that "said guard electrode is disposed between said first electrode and said second electrode," and claim 10 to recite, among other things, "a second supporting member" and "a guard electrode which is disposed between said first supporting member and said second supporting member." Claims 11 and 12 are cancelled without prejudice or disclaimer.

Applicant submits that Ikeda does not disclose these features at least because its guard electrode 116, which the Office Action identified at page 3 as corresponding to the claimed guard electrode, is arranged not between but well underneath both its fixed electrode 111 and moving electrode 161 (see Fig. 5), which the Office Action respectively identified to the claimed first and second electrodes. Moreover, consistent with Applicant's view, the Office Action did not reject claims 2 and 17, which recited the "guard electrode" features incorporated into claims 1 and 10. Therefore, Applicant submits that Ikeda fails to disclose all the features of amended independent claims 1

and 10, and thus respectfully requests favorable reconsideration of the rejection of claims 1, 3-5, 8, 10, and 13 as being anticipated by Ikeda.

In addition, regarding dependent claims 3 and 4, Applicant respectfully disagrees with the assertions at page 3 of the Office Action that Ikeda's substrate 100 fixes its guard electrode 116 and its fixed electrode 111, and that it further fixes its moving electrode 161 and its guard electrode 116. Applicant submits that Ikeda's substrate 100 does not fix the pairs of electrodes recited in claims 3 and 4 because although it may contact the underside and lateral sides of its guard electrode 116, it does not reach the fixed electrode 111 (see Fig. 5A) and is actually multiple layers away from the moving electrode 161 (see Fig. 5C). Thus, Applicant respectfully requests favorable reconsideration of the rejection of claims 3 and 4 as being anticipated by Ikeda for this additional reason.

IV. Rejection of Claims 1, 2, and 9 as Being Anticipated by Kobayashi

Applicant respectfully requests favorable reconsideration of the rejection of independent claim 1 as being anticipated by Kobayashi for the reasons set forth next.

Applicant submits that Kobayashi fails to disclose at least "a capacity type sensor detector to detect an impedance change between said first electrode and said second electrode," as recited in amended independent claim 1. Kobayahi discloses detecting electrodes 61a and 61b, guard electrodes 611 and 621, and a drive electrode 63, but it does not disclose that it detects an impedance change between electrodes 61a and 61b and drive electrode 63, which the Office Action respectively identified at page 5 to the claimed first and second electrodes. Rather, it appears that Kobayashi discloses a proximity sensor sensing proximity based on a comparison of the electric charges in its

two separate detecting electrodes 61a and 61b, which will differ as a human body approaches the sensor (see Figs. 12C and 12D; and paragraphs 0093-0095). In fact, not only does Kobayashi fail to disclose that it detects an impedance change between electrodes 61a and 61b and drive electrode 63, it actually states that its drive electrode 63 is not necessary and is only preferable for stability purposes, a purpose other than the detection of an impedance change (see paragraph 0101). The Office Actions cites Fig. 13 and paragraphs 0022 and 0100 in support of its assertions, but although these passages mention an "amplification factor of one time," they are silent regarding any impedance change.

Therefore, Applicant submits that Kobayashi fails to disclose all the features of amended independent claim 1, and thus respectfully requests favorable reconsideration of the rejection of claims 1 and 9 as being anticipated by Kobayashi. Claim 2 is cancelled without prejudice or disclaimer thereby rendering the rejection of that claim moot.

V. Rejection of Claims 1-4, 9-12, and 17-19 as Being Anticipated by Ryhanen

Applicant respectfully requests favorable reconsideration of the rejection of independent claim 1 as being anticipated by Ryhanen for the reasons set forth next.

Applicant submits that Ryhanen fails to disclose at least a capacity type sensor having first and second electrodes, a guard electrode disposed between them, and both "a potential equalizer to make the potential difference between said first electrode and said guard electrode close to zero" and "a capacity type sensor detector to detect an impedance change between said first electrode and said second electrode," as recited in amended independent claim 1.

In some of its embodiments, including the one that the Office Action discussed at page 7 in support of the rejection, Ryhanen discloses a sensing electrode s, a drive electrode D, and a guard layer g (see Figs. 13-16). However, Ryhanen does not appear to disclose that any of those embodiments has a potential equalizer or detects an impedance change between electrodes s and g (see Figs. 13-16 and paragraphs 0069-0074). Ryhanen mentions that its device could have a common guard electrode that could be grounded or at a potential based on an average potential of the sensing electrodes (see paragraph 0074), but such a potential would be different from that of a given sensing electrode.

In other embodiments, Ryhanen discusses the measurement of primary impedance Z and the detection of secondary impedance due to skin resistance, but only does so schematically using a box-type circuit 1145 (see Figs. 11a and 11b and paragraphs 0064-0065) and does not explain the internal details of that circuit in a way that would allow one to know what if anything is measured between any electrodes that may or may not be in circuit 1145.

In yet another embodiment, Ryhanen discloses a sensing electrode 1222 and a guard electrode 1228 along with a unity gain buffer amplifier 1285 keeping these electrodes in the same potential (see Fig. 12 and paragraph 0068). However, Applicant submits that Ryhanen does not disclose that this embodiment detects an impedance change between its sensing electrode and some other electrode other than its guard electrodes (see Fig. 12 and paragraph 0068).

Finally, in a completely different embodiment pertaining to a concentric arrangement, Ryhanen discloses a central electrode 710, a guard ring 711, and an

outer ring electrode 712 (see Figs. 7a and 7b and paragraph 0059-0060), where the impedance between the center electrode 710 and the outer ring electrode 712 is measured. However, that embodiment does not appear to have any potential equalizer (see Fig. 7c).

Therefore, Applicant submits that Ryhanen fails to disclose a capacity type sensor having all of the elements recited in amended independent claim 1.

Regarding the rejection of independent claim 18 as being anticipated by Ryhanen, and in the spirit of moving prosecution forward, Applicant amends claim 18 to recite "a guard electrode which is disposed between said third supporting member and said fourth supporting member," "a potential equalizer to make the potential difference between said first electrode and said guard electrode close to zero," and "a capacity type sensor detector to detect an impedance change between said first electrode and said second electrode." For the same reasons discussed above regarding claim 1, Applicant submits that Ryhanen fails to disclose a capacity type sensor having every element recited in amended claim 18.

Finally, regarding the rejection of regarding independent claim 10 as being anticipated by Ryhanen, Applicant submits that although that claim is indicated as being rejected in the section heading on page 6 of the Office Action, this may be a typographical error because that claim does not appear to be actually discussed and rejected in the body of the rejection. In any event, Applicant submits that Ryhanen fails to disclose a capacity type sensor having every element recited in amended claim 10 for some of the same reasons discussed above regarding claim 1.

Therefore, Applicant submits that Ryhanen fails to disclose a capacity type sensor having all the features of amended independent claims 1, 10, and 18, and thus respectfully requests favorable reconsideration of the rejection of claims 1, 3, 4, 9, 10, and 18 as being anticipated by Ryhanen. Claims 2, 11, 12, 17, and 19 are cancelled without prejudice or disclaimer thereby rendering the rejection of those claims moot.

VI. Rejection of Claims 1, 2, 10-12, and 17 as Being Anticipated by Ackland

In response to the rejection of independent claims 1 and 10 as being anticipated by Ackland, and in the spirit of moving prosecution forward, Applicant amends claim 10 to recite, among other things, "a capacity type sensor detector to detect an impedance change between said first electrode and said second electrode," a feature similarly recited in claim 1, and respectfully requests favorable reconsideration of the rejection for the reasons set forth next.

Applicant submits that Ackland does not disclose at least the capacity type sensor detector features of claims 1 and 10. The Office Action cites to the abstract of Ackland as teaching those features. However, Applicant submits that the abstract merely mentions a sensor plate coupled to a shield plate via a unity-gain amplifier, and does not disclose any capacity type sensor detector that detects any impedance change, and thus also does not disclose such a detector detecting an impedance change between first and second electrodes having a guard electrode between them. Applicant further submits that Ackland discloses that it determines whether a fingerprint ridge or valley is present based on a measure of the "discharge rate" (c. 6, ll. 10-50) but does not disclose the claimed change of impedance. Therefore, Applicant submits that Ackland fails to disclose all the features of amended independent claims 1 and 10, and

thus respectfully requests favorable reconsideration of the rejection of claims 1 and 10 as being anticipated by Ackland. Claims 2, 11, 12, and 17 are cancelled without prejudice or disclaimer thereby rendering the rejection of those claims moot.

VII. Rejection of Claims 1, 6, and 7 as Being Unpatentable Over Zias in view of Ikeda

In response to the rejection of independent claim 1 as being unpatentable over Zias in view of Ikeda, and in the spirit of moving prosecution forward, Applicant amends claim 1 to recite "said guard electrode is disposed between said first electrode and said second electrode." Applicant submits that neither Zias nor Ikeda teaches or suggests this feature because Ikeda does not teach or suggest this feature as discussed in Section III and because Zias fails to disclose the claimed guard electrode to begin with, which the Office Action admits at page 12. Therefore, Applicant submits that Zias and Ikeda, whether taken alone or combined, fail to teach or suggest every feature of independent claim 1. Thus, Applicant respectfully requests favorable reconsideration of the rejection of claims 1, 6, and 7 as being unpatentable over Zias in view of Ikeda.

In addition, Applicant submits that Zias fails to teach or suggest a depression as recited in dependent claim 6. In this regard, Applicant submits that although Zias discloses a diaphragm portion 216 in Fig. 22, as the Office Action points out at page 13, Zias's portion 216 contacts dielectric material 221 and there is no space between those layers. And even if those two layers were viewed together, they are merely layers that are not laid flat. But although the manner in which portion 216 and the dielectric material 221 are laid creates spaces shown in Fig. 22 under the dielectric material 221, that is not the same as depression constituting a plate type thin film portion. Thus, Applicant submits that the portion 216 itself is not a "plate type thin film portion which is

constituted by a depression at the central part of a lower side of said first or second electrode." Therefore, Applicant respectfully requests favorable reconsideration of the rejection of claim 6 as being unpatentable over Zias in view of Ikeda for this additional reason.

VIII. Rejection of Claim 17 as Being Unpatentable Over Ikeda in view of Ryhanen

In response to the rejection of claim 17 as being unpatentable over Ikeda in view of Ryhanen, which is treated as if directed to independent claim 10, in which the features of claim 17 were incorporated, Applicant respectfully requests favorable reconsideration of the rejection for the reasons set forth next.

Applicant submits that Ikeda and Ryhanen fail to teach or suggests a capacity type sensor having all of the elements recited in claim 10 for the reasons discussed in Section III (regarding Ikeda) and in Section V (regarding Ryhanen). Applicant further submits that Ryhanen discloses a number of very different approaches, each with their own different set of characteristics and components and each addressing similar problems in different ways. Even if, arguendo, a person of ordinary skill in the art were contemplating improvements to Ikeda based on Ryhanen, such a person would adopt one of Ryhanen's approaches, with all of its particular characteristics. For example, either that person would adopt an approach having electrodes s, D, and g but apparently no potential equalizer or impedance change detection as claimed (such as in Figs. 13-16) or it would adopt a different approach using a sensing electrode and a guard electrode in the same potential but without detecting a change of impedance between the sensing electrode and some other electrode (such as in Fig. 12). Thus, Applicant submits that none of Ryhanen's approaches has all claimed features, and that

the person of ordinary skill in the art would not arrive at the claimed invention by combining any of Ryhanen's approaches with Ikeda, unless of course that person was purposefully picking and choosing sub-features that Ryhanen apparently chose not to combine in an effort to arrive at the claimed invention, but this would be improper hindsight reconstruction. Therefore, Applicant submits that Ikeda and Ryhanen, whether taken alone or combined, fail to teach or suggest a capacity type sensor having all of the elements recited in claim 10.

IX. New Claims

Applicant adds new claims 20-28 to vary the scope of protection recited in the claims. Claims 20-28 find non-limiting support in the originally-filed application (see, e.g., Figs. 1, 3, 5, and 6, and paragraphs 0044-0046, 0049, 0050, 0055, and 0059, of the published application) and thus do not introduce new matter. Claims 20-28 are believed to be allowable for at least the reasons discussed above regarding independent claim 1, from which they depend directly or indirectly.

X. Concluding Remarks

Because the Office Action includes characterizations of the claims and background art with which Applicant does not necessarily agree, Applicant declines to subscribe to any such characterizations unless expressly set forth in this paper.

In view of the foregoing amendments and remarks, Applicant respectfully requests favorable reconsideration and reexamination of this application and the timely allowance of the pending claims.

Please grant any extensions of time required to enter this response and charge any additional required fees to Deposit Account 06-0916.

Respectfully submitted,

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